# Creating Interactive Dashboards Using Excel with Data, Pivot Tables, Charts, and Slicers

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## Introduction to Excel Dashboards

### What is a Dashboard?

A dashboard is a visual interface that displays key metrics and trends for decision-making. In Excel, dashboards are built using charts, pivot tables, and slicers to provide dynamic insights from raw data.

### Why Use Excel Dashboards?

- Easy to build and maintain
- Requires no coding
- Integrates multiple datasets
- Offers interactive filtering using slicers

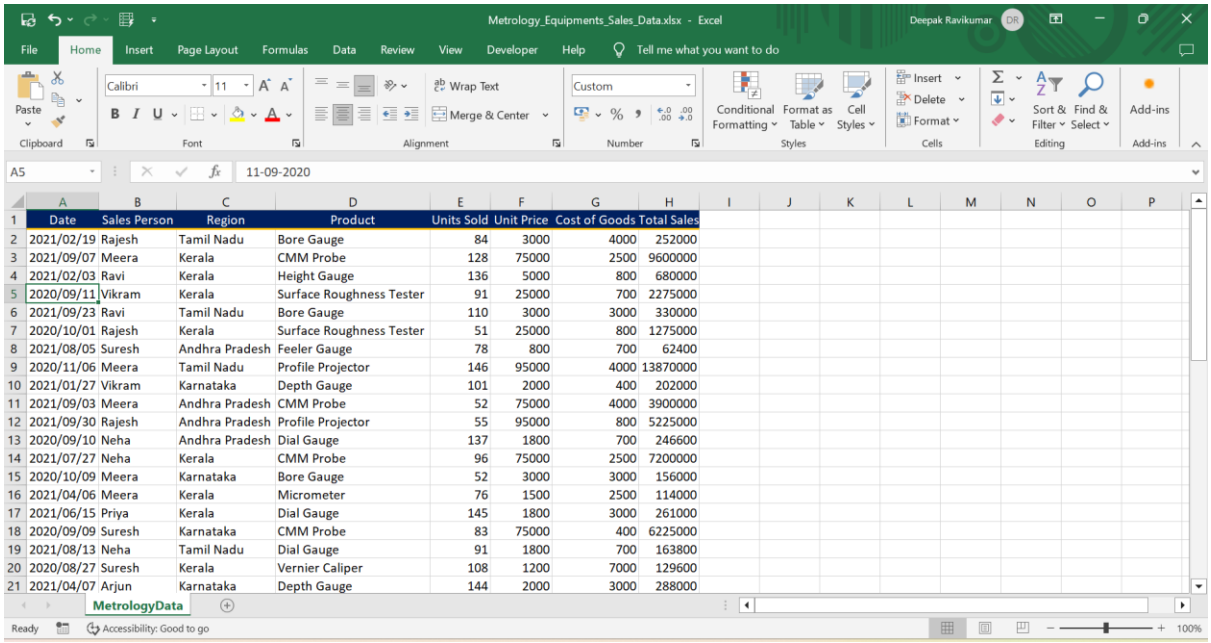
### Real-world Use Cases:

- Sales performance tracking
- Inventory management
- Financial dashboards
- HR dashboards for attendance and recruitment

## Preparing Your Dataset for a Dashboard

### Data Structure Requirements:

- Columns should have clear headers (e.g., Date, Region, Product, Sales)
- No merged cells or subtotals
- Consistent data types in each column



| Date | Sales Person | Region | Product | Units Sold | Unit Price | Cost of Goods | Total Sales |
|---|---|---|---|---|---|---|---|
| 2021/02/19 | Rajesh | Tamil Nadu | Bore Gauge | 84 | 3000 | 4000 | 252000 |
| 2021/09/07 | Meera | Kerala | CMM Probe | 128 | 75000 | 2500 | 9600000 |
| 2021/02/03 | Ravi | Kerala | Height Gauge | 136 | 5000 | 800 | 680000 |
| 2020/09/11 | Vikram | Kerala | Surface Roughness Tester | 91 | 25000 | 700 | 2275000 |
| 2021/09/23 | Ravi | Tamil Nadu | Bore Gauge | 110 | 3000 | 3000 | 330000 |
| 2020/10/01 | Rajesh | Kerala | Surface Roughness Tester | 51 | 25000 | 800 | 1275000 |
| 2021/08/05 | Suresh | Andhra Pradesh | Feeler Gauge | 78 | 800 | 700 | 62400 |
| 2020/11/06 | Meera | Tamil Nadu | Profile Projector | 146 | 95000 | 4000 | 13870000 |
| 2021/01/27 | Vikram | Karnataka | Depth Gauge | 101 | 2000 | 400 | 202000 |
| 2021/09/03 | Meera | Andhra Pradesh | CMM Probe | 52 | 75000 | 4000 | 3900000 |
| 2021/09/30 | Rajesh | Andhra Pradesh | Profile Projector | 55 | 95000 | 800 | 5225000 |
| 2020/09/10 | Neha | Andhra Pradesh | Dial Gauge | 137 | 1800 | 700 | 246600 |
| 2021/07/27 | Neha | Kerala | CMM Probe | 96 | 75000 | 2500 | 7200000 |
| 2020/10/09 | Meera | Karnataka | Bore Gauge | 52 | 3000 | 3000 | 156000 |
| 2021/04/06 | Meera | Kerala | Micrometer | 76 | 1500 | 2500 | 114000 |
| 2021/06/15 | Priya | Kerala | Dial Gauge | 145 | 1800 | 3000 | 261000 |
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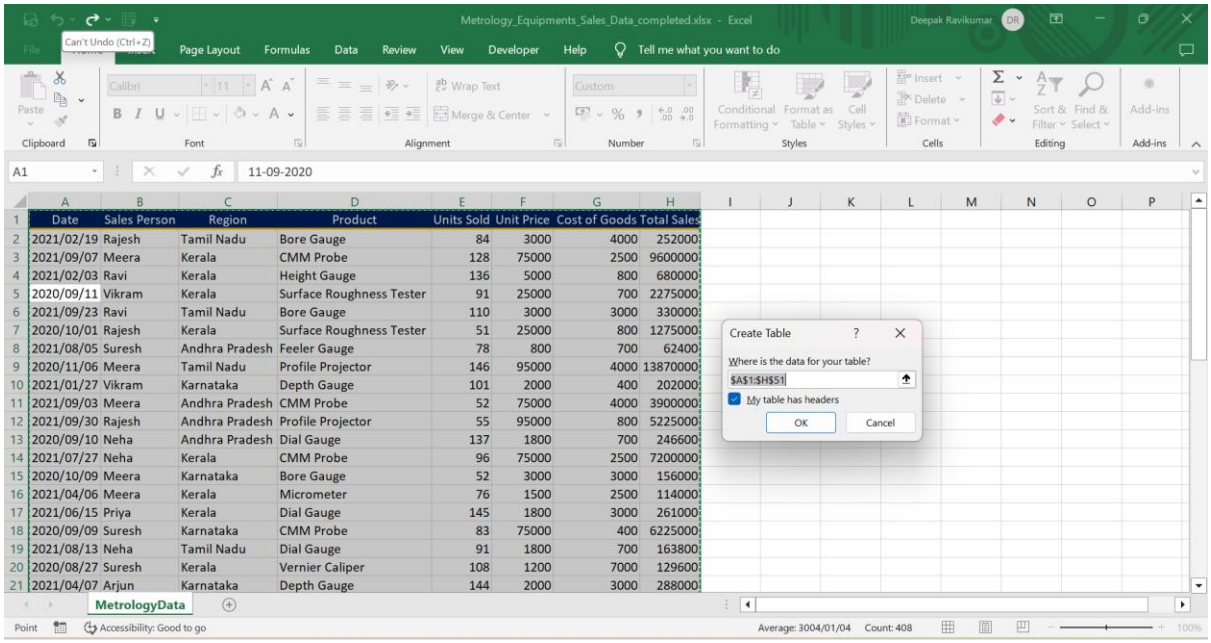
| 2021/08/13 | Neha | Tamil Nadu | Dial Gauge | 91 | 1800 | 700 | 163800 |
| 2020/08/27 | Suresh | Kerala | Vernier Caliper | 108 | 1200 | 7000 | 129600 |
| 2021/04/07 | Arjun | Karnataka | Depth Gauge | 144 | 2000 | 3000 | 288000 |

## Step-by-step Instructions:

1. Open your Excel sheet and import the dataset (CSV, XLSX, etc.).
2. Select the data range → Press Ctrl + T to create a table.



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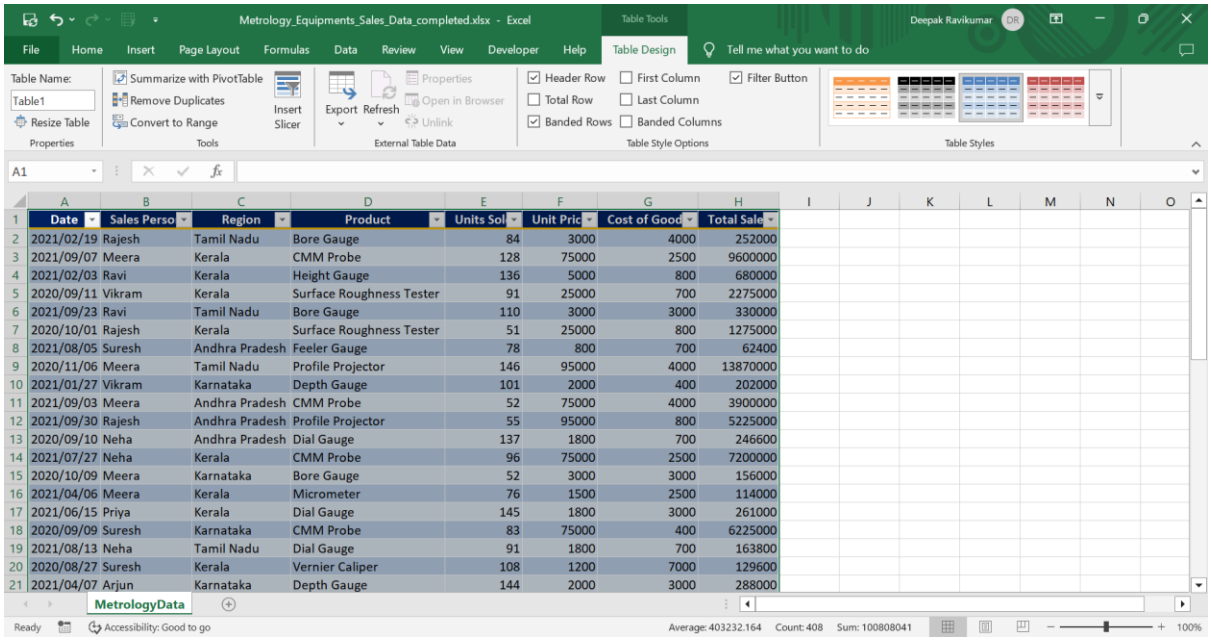
3. Name the table (e.g., SalesData) from the Table Design ribbon.




### Cleaning the Data:

- Remove blanks or errors using Go To Special → Blanks
- Use Text to Columns for separating values
- Ensure dates are in proper date format
- Check for duplicates via Data → Remove Duplicates

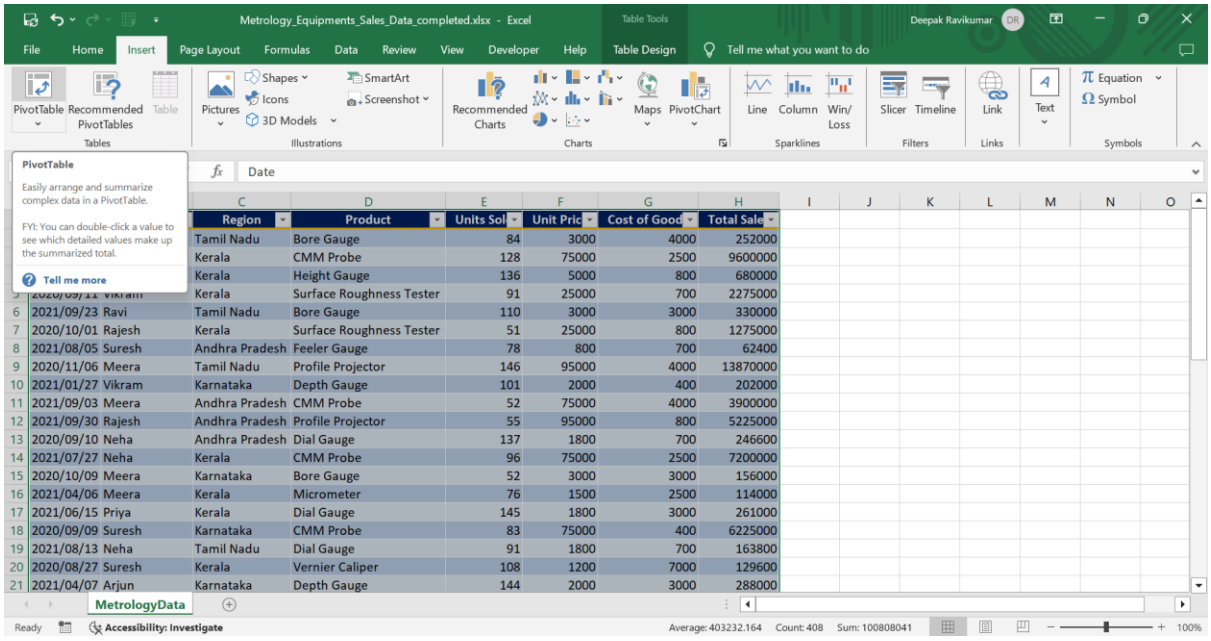
## Creating Pivot Tables for Data Summarization

### What is a Pivot Table?

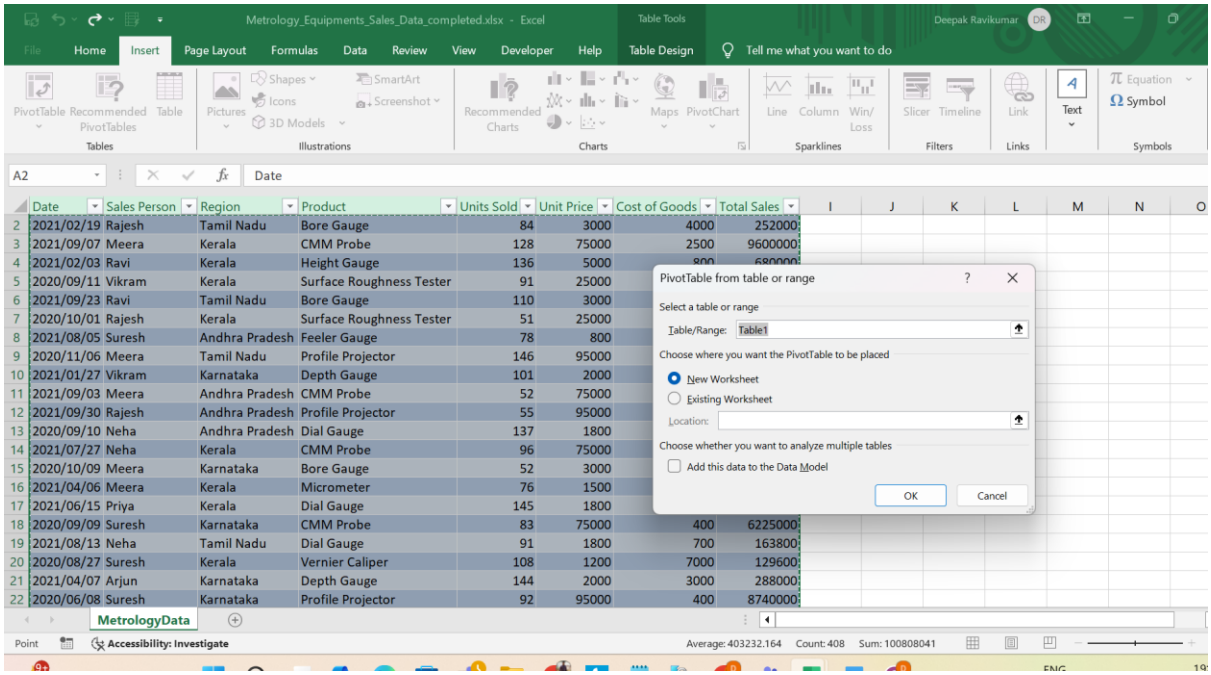
A pivot table is a powerful tool in Excel used to summarize, analyze, and explore large amounts of data.

### Creating a Pivot Table:

1. Click anywhere in your table.
2. Go to Insert → PivotTable.

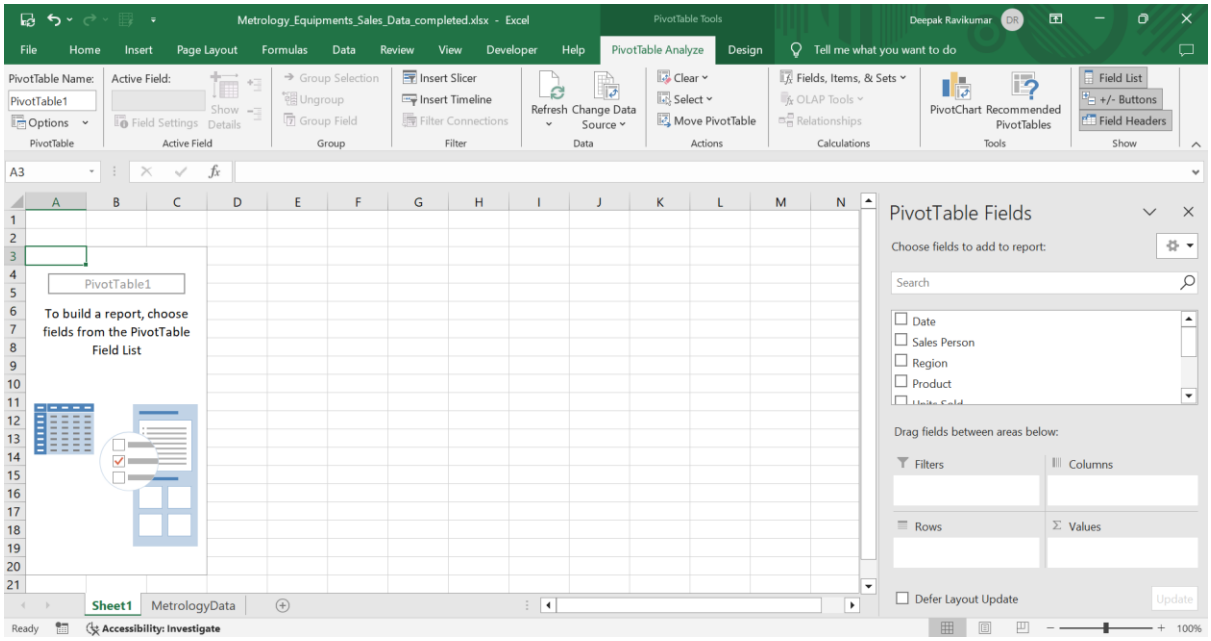



3. Choose to place the pivot table in a **new worksheet** or the **existing one**.



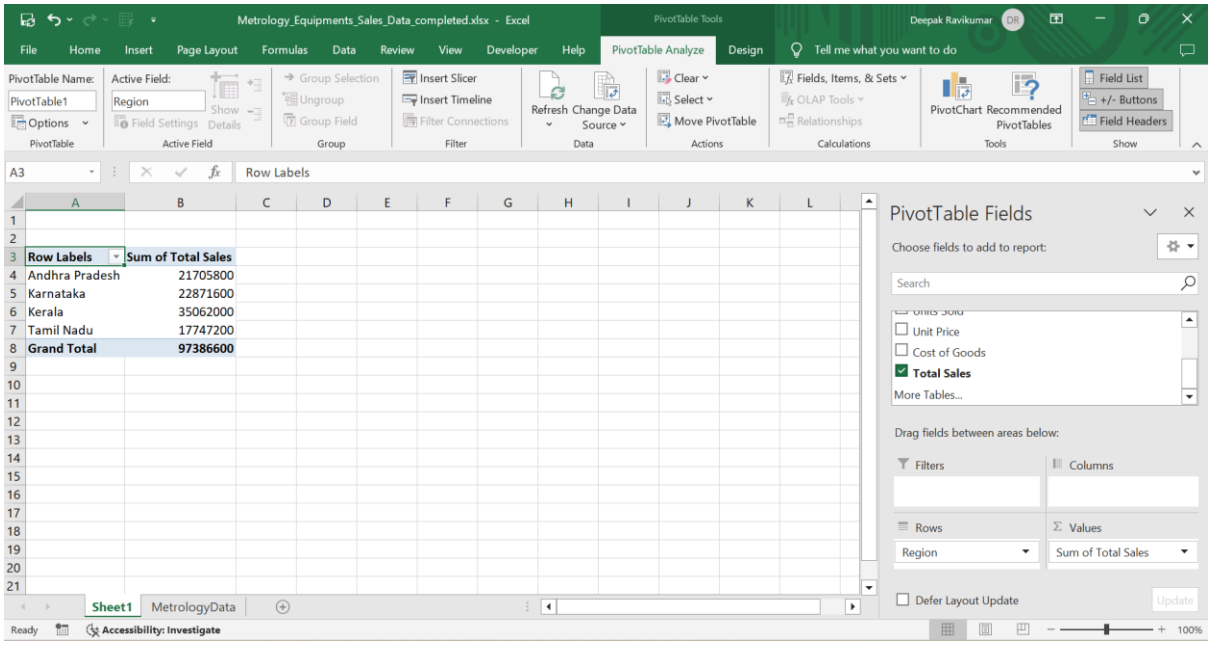

## Building Your Pivot Table:

- Drag **fields** to:
    - Rows: for categories (e.g., Region, Product)
    - Columns: for secondary categories (e.g., Month)
    - Values: for numeric summaries (e.g., Sum of Sales)
    - Filters: for top-level filters

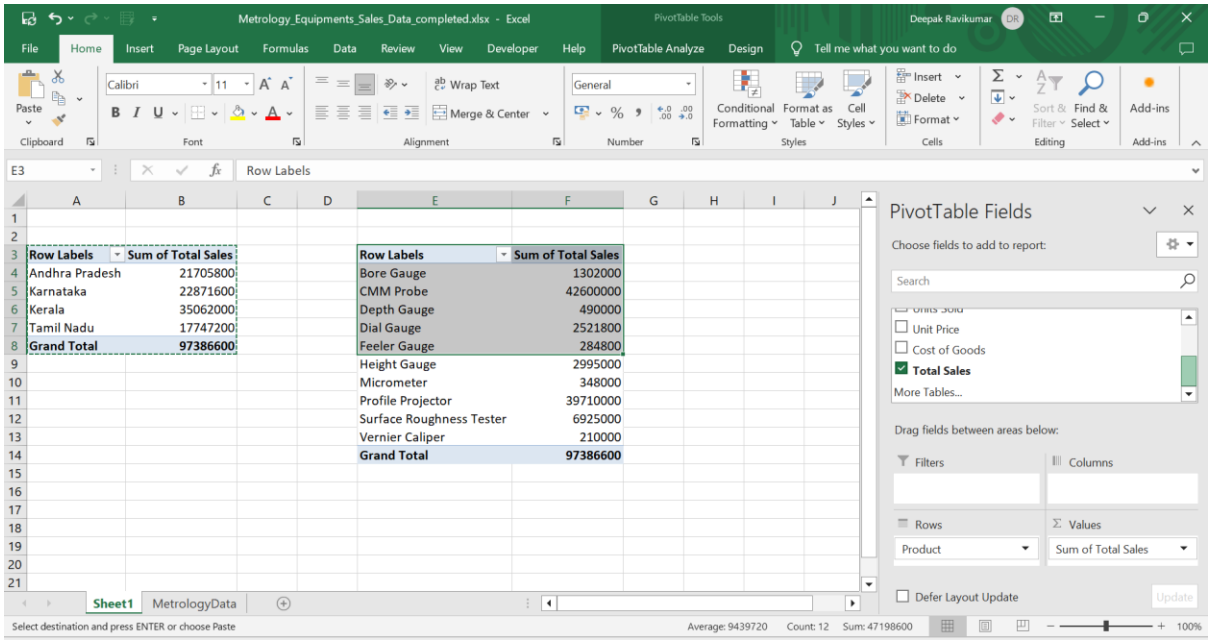



## Examples:

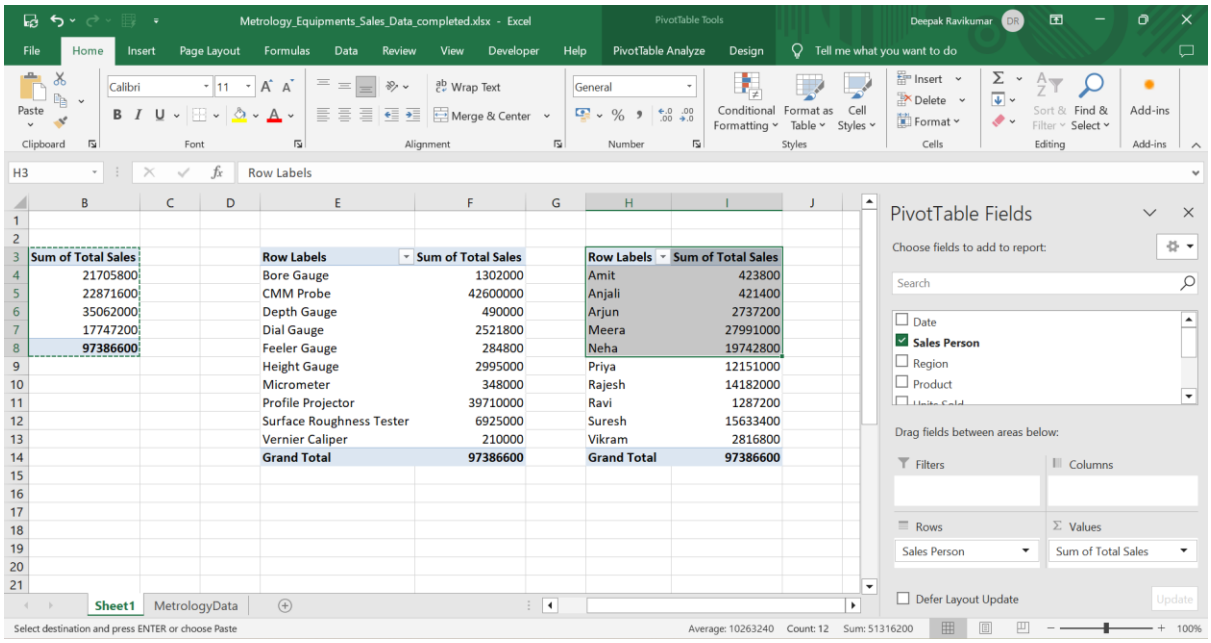
- Total Sales by Region




- Quantity Sold by Product and Month




- Average Sales per Salesperson



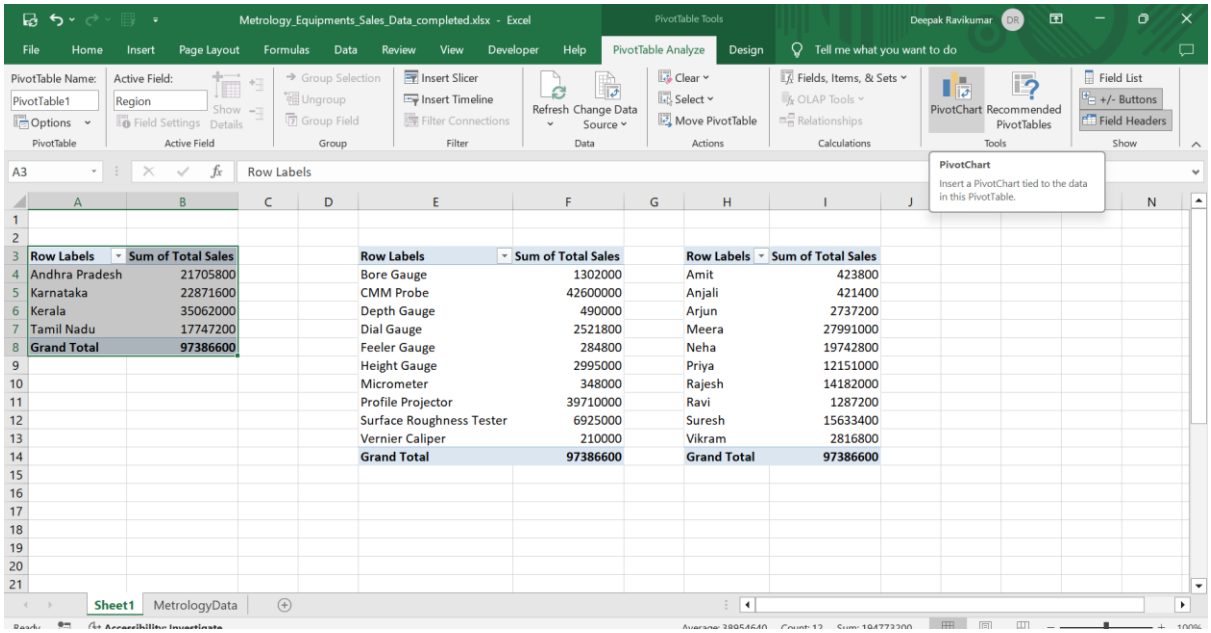

## Creating Pivot Charts for Visual Representation

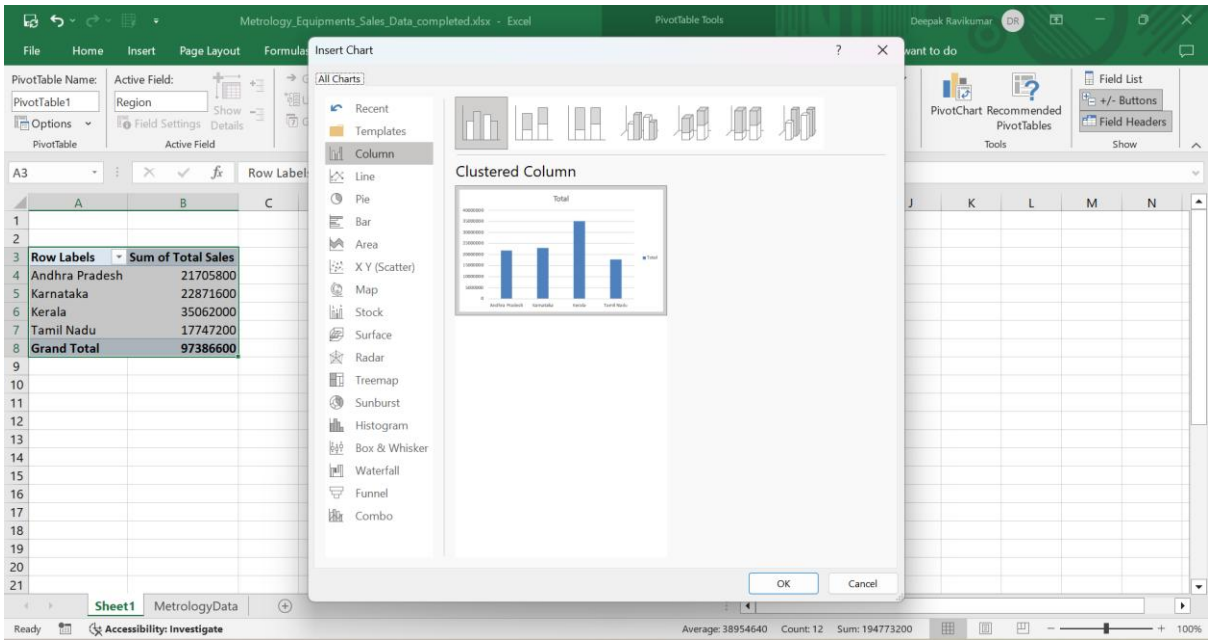
### What is a Pivot Chart?

A pivot chart is a dynamic chart tied to your pivot table, automatically updating as the pivot data changes.

### Steps to Create a Pivot Chart:

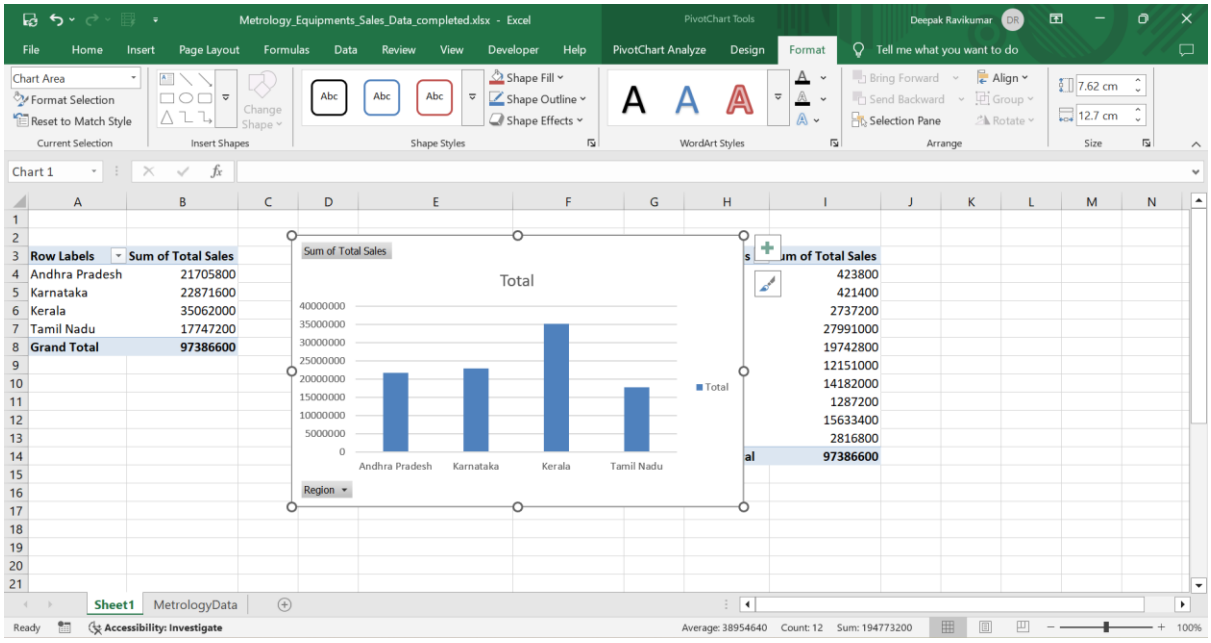
1. Click inside a pivot table.
2. Go to Insert → PivotChart.
3. Select the chart type: Column, Line, Pie, etc.



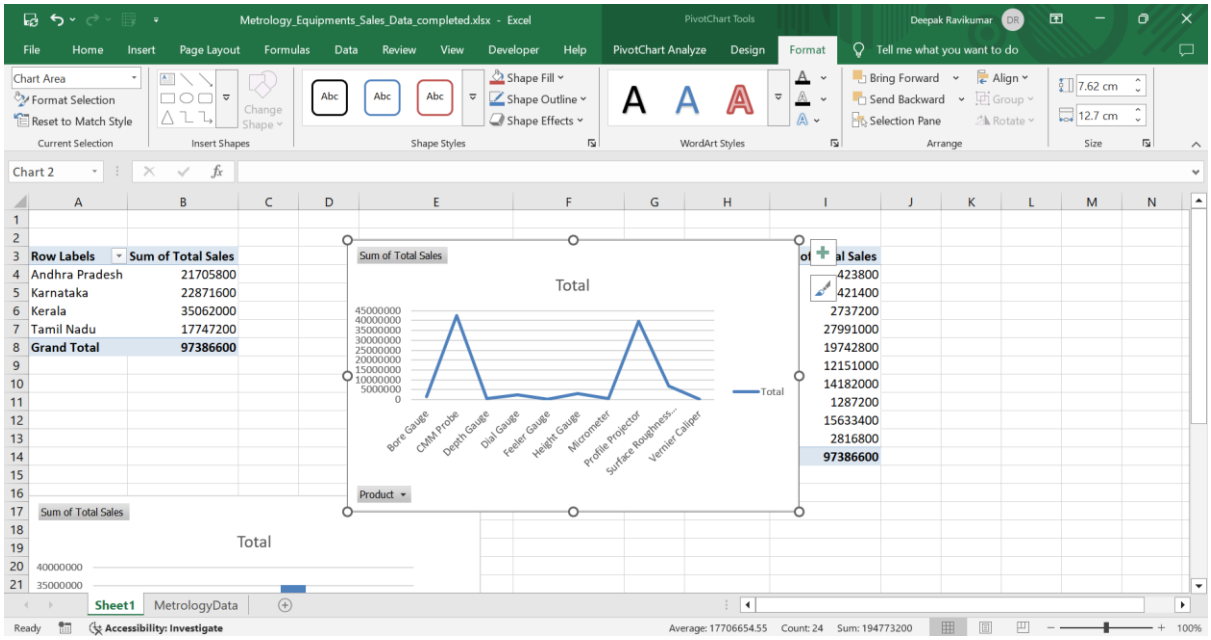




## Recommended Chart Types:

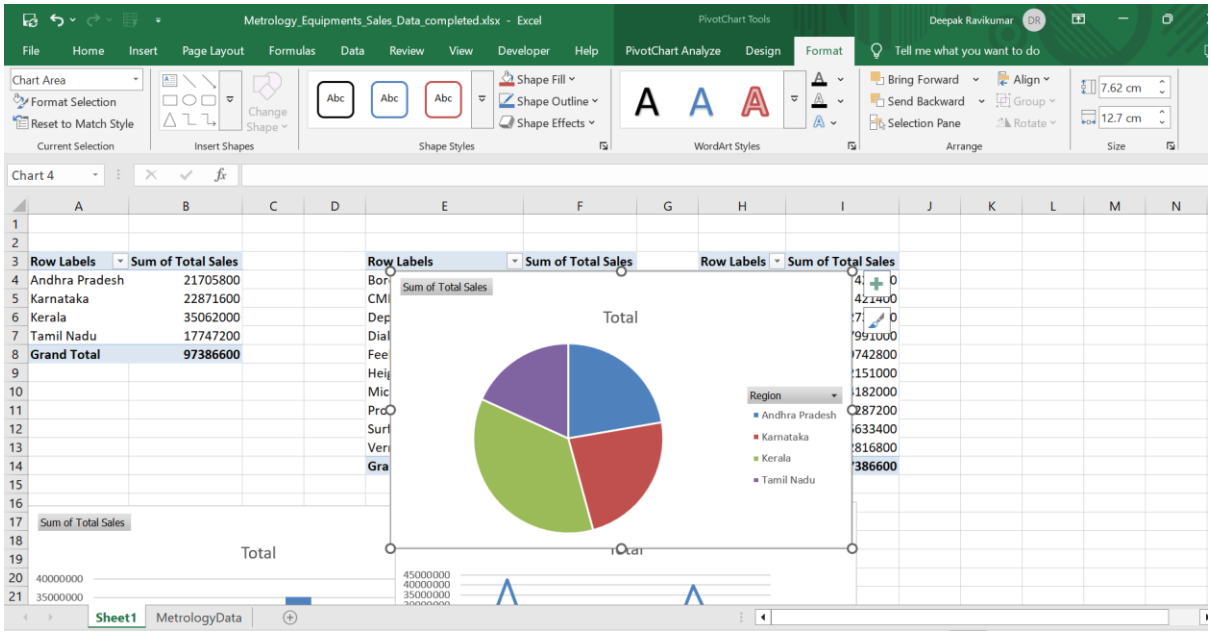
- **Column Chart** – Great for comparing sales across regions



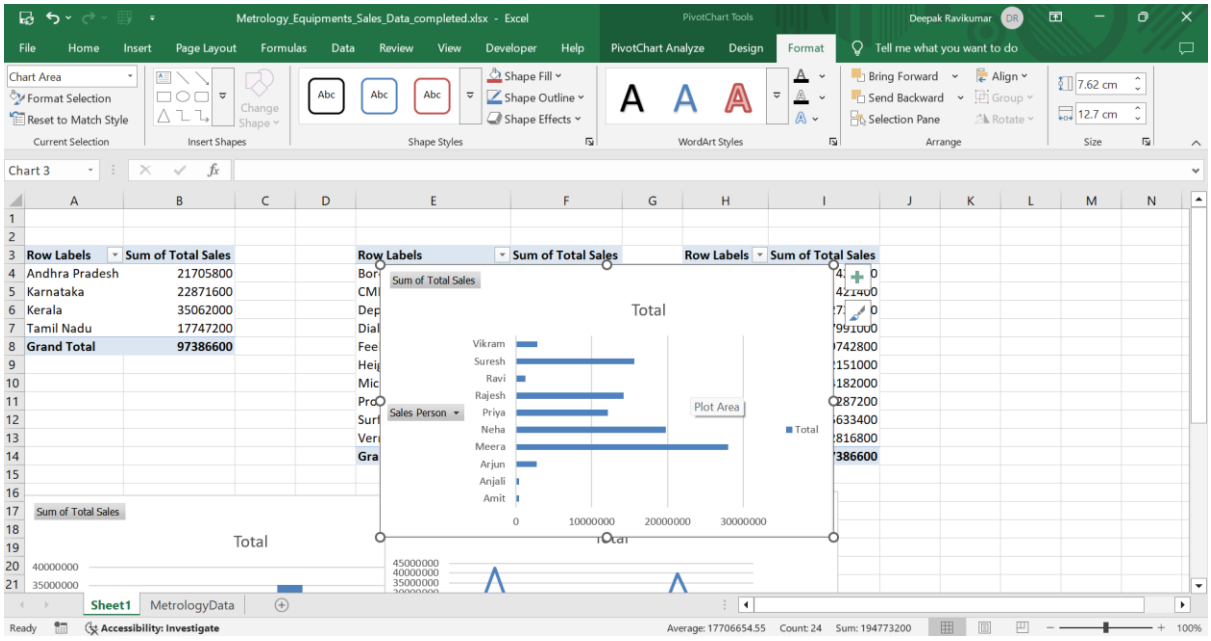

- **Line Chart** – Ideal for showing trends over time




- **Pie Chart** – Visualize share of categories (e.g., product category)




- **Combo Chart** – Combine two chart types (e.g., line and column)




### Formatting the Charts:

- Add Data Labels
- Change Chart Titles
- Modify Colors for clarity
- Use “No Fill” for backgrounds to reduce clutter

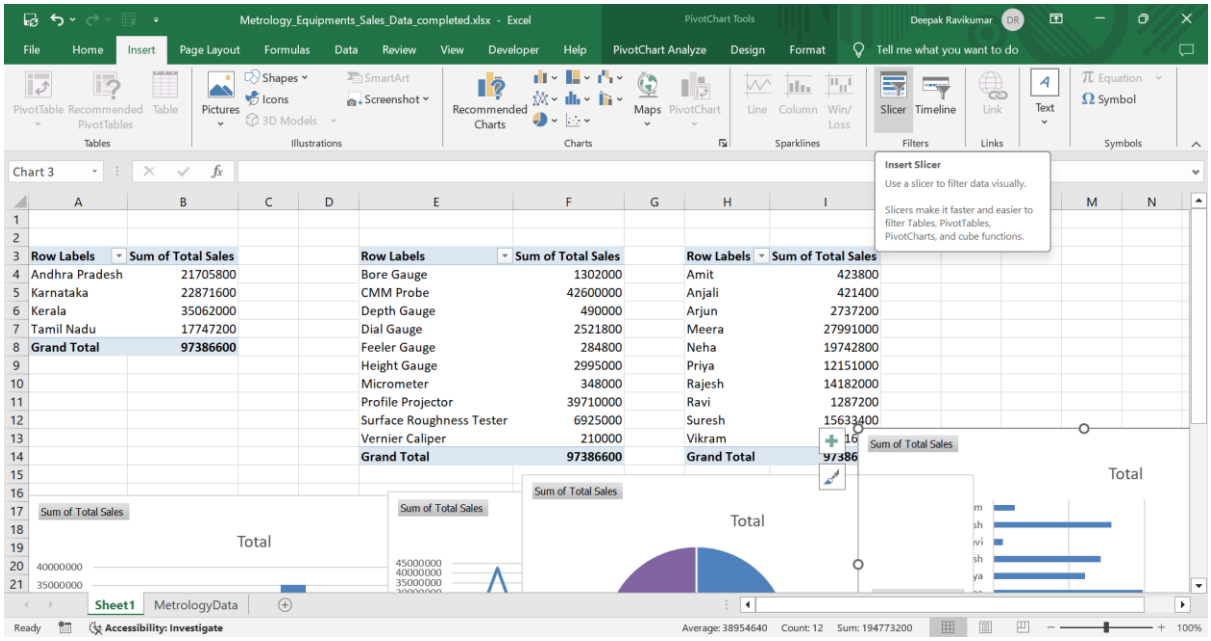
## Using Slicers for Interactive Filtering

### What is a Slicer?

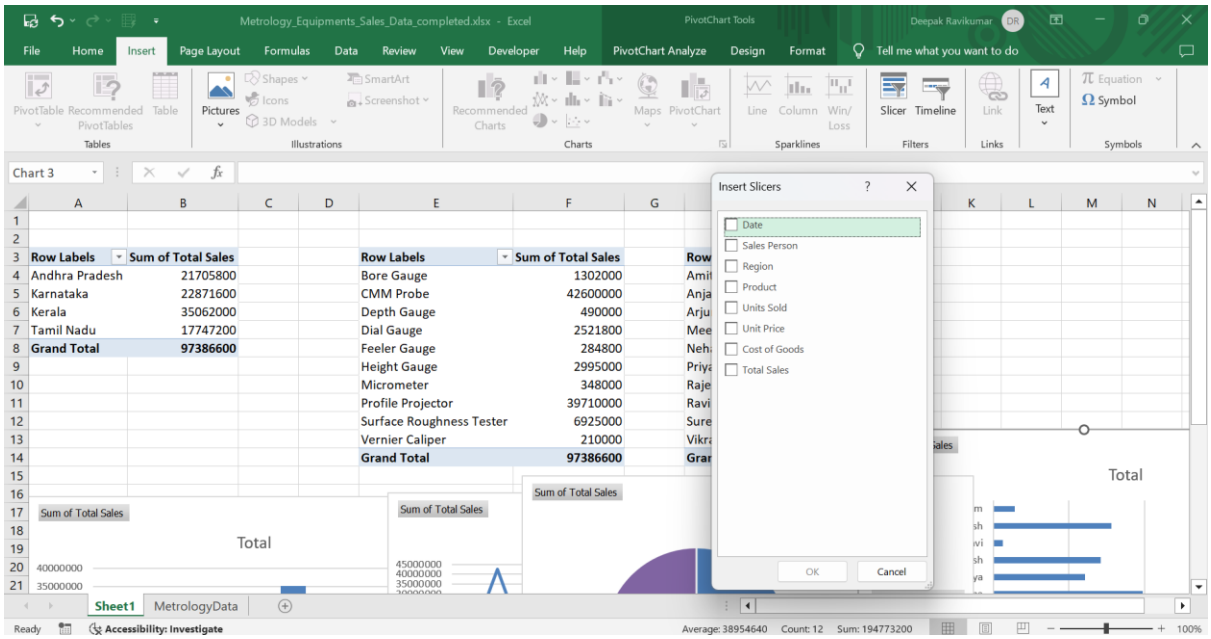
Slicers are visual filters that allow users to interactively filter pivot tables and pivot charts with a click.

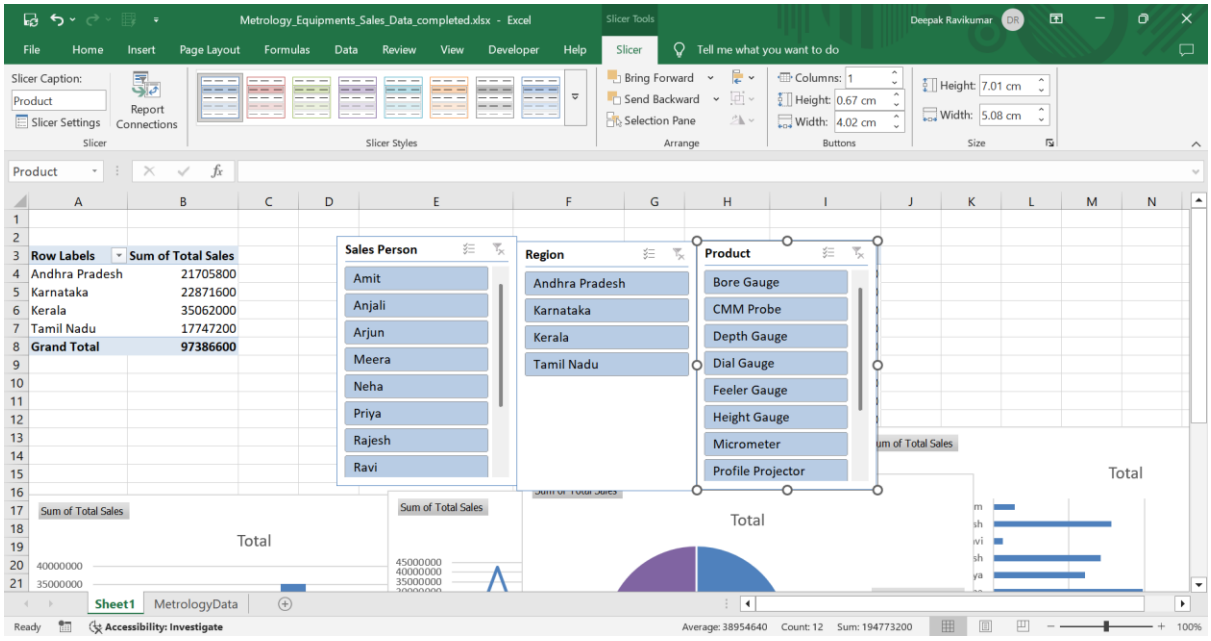
## Steps to Insert a Slicer:

1. Select your pivot table.
2. Go to Insert → Slicer.




3. Choose the fields you want (e.g., Region, Salesperson, Product).






### Using the Timeline:

For date-based filtering:

1. Select the pivot table.
2. Go to Insert → Timeline.
3. Choose a Date field.
4. Users can scroll or click to filter by month or quarter.

### Connecting Multiple Pivot Tables:

1. Right-click on slicer → Report Connections.
2. Select all relevant pivot tables to control them simultaneously.

## Assembling Your Dashboard Layout

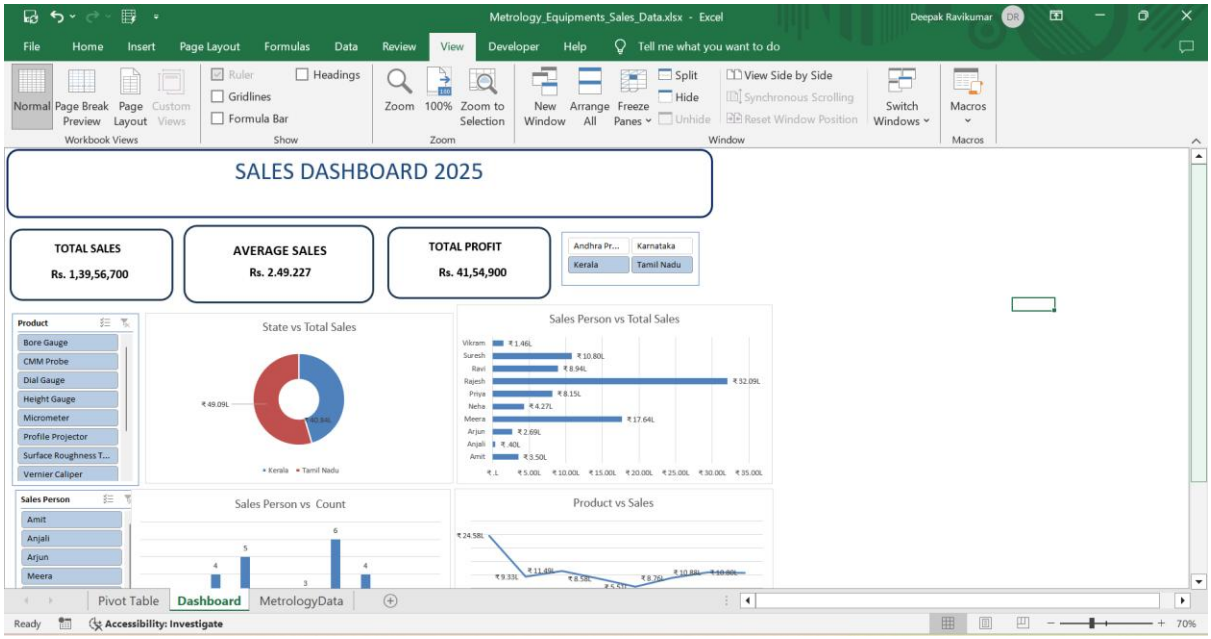
### Dashboard Design Tips:

- Use one sheet for the dashboard only
- Arrange charts and slicers in a logical, grid-based format
- Use consistent color schemes
- Group related metrics together
- Add headers for sections (e.g., "Sales Overview", "Region Filter")

### Step-by-step Assembly:

1. Copy your pivot charts and paste them into one sheet named Dashboard.
2. Add slicers and position them at the top or side.

3. Resize charts for alignment and clarity.
4. Hide pivot table sheets or move them to a separate tab group.
5. Add background colors, borders, or shapes using Insert → Shapes.




## Final Touches and Dashboard Sharing

### Protecting Your Dashboard:

- Lock sheet to prevent accidental edits (Review → Protect Sheet)
- Hide pivot tables/data sheets
- Use drop-downs or form controls for enhanced UX (optional)

### Exporting the Dashboard:

- Export to PDF: File → Export → Create PDF
- Share via OneDrive or SharePoint for collaboration

## Dashboard Creation Case Study (Practice)

### Dataset: Sample Sales Data

Fields include:

- Date
- Region
- Salesperson
- Product Category

- Units Sold
- Revenue

**Task:**

1. Create Pivot Tables for:
    - Revenue by Region
    - Monthly Revenue Trends
    - Sales by Product Category
2. Create Pivot Charts:
    - Column chart (Revenue by Region)
    - Line chart (Monthly Revenue Trend)
    - Pie chart (Sales by Product Category)
3. Add Slicers:
    - Region
    - Salesperson
    - Product Category
4. Create a Final Dashboard Sheet:
    - Add all visualizations
    - Apply design polish
    - Export the finished version as PDF